What is claimed is:

1. A silicoaluminophosphate molecular sieve comprising a surface heat impregnated with a metal selected from the group consisting of Group IIA metals, Group IIIA metals, Group IB metals, Group IIB metals, Group IIIB metals, Group VIB metals, Group VB metals, Group VIB metals, Group VIIB metals, Group VIIIB metals, and mixtures thereof.

2. The silicoaluminophosphate molecular sieve of claim 1 wherein the silicoaluminophosphate molecular sieve is selected from the group consisting of SAPO-5, SAPO-8, SAPO-11, SAPO-16, SAPO-17, SAPO-18, SAPO-20, SAPO-31, SAPO-34, SAPO-35, SAPO-36, SAPO-37, SAPO-40, SAPO-41, SAPO-42, SAPO-44, SAPO-47, SAPO-56, the metal containing forms thereof, and mixtures thereof.

3. The silicoaluminophosphate molecular sieve of claim 2 wherein the silicoaluminophosphate molecular sieve is selected from the group consisting of SAPO-18, SAPO-34, SAPO-35, SAPO-44, SAPO-47, and mixtures thereof.

4. The silicoaluminophosphate molecular sieve of claim 3 wherein the silicoaluminophosphate molecular sieve is selected from the group consisting of SAPO-34A, SAPO-34B, and mixtures thereof.

5. The silicoaluminophosphate molecular sieve of claim 1 wherein the silicoaluminophosphate molecular sieve comprises 0.5 to 40 percent by weight of the metal.

6. The silicoaluminophosphate molecular sieve of claim 5 wherein the silicoaluminophosphate molecular sieve comprises 1 to 20 percent by weight of the metal.

7. The silicoaluminophosphate molecular sieve of claim 6 wherein the silicoaluminophosphate molecular sieve comprises 1 to 10 percent by weight of the metal.

8. The silicoaluminophosphate molecular sieve of claim 1 wherein the metal is selected from the group consisting of aluminum, magnesium, calcium, barium, lanthanum, titanium, chromium, iron, cobalt, nickel, copper, zinc, and mixtures thereof.

9. The silicoaluminophosphate molecular sieve of claim 8 wherein the metal is copper, zinc, or a mixture thereof.

10. The silicoaluminophosphate molecular sieve of claim 9 wherein the molecular sieve comprises the metal of 1 to 20 percent by weight based on the total weight of the molecular sieve.

11. The silicoaluminophosphate molecular sieve of claim 1 wherein the metal is a heat decomposition product of a metal acetate, metal nitrate, metal sulfate, or metal halide.

12. The silicoaluminophosphate molecular sieve of claim 1 wherein the surface is heat impregnated with the metal at a temperature from 30°C to 400°C.

13. The silicoaluminophosphate molecular sieve of claim 12 wherein the surface is heat impregnated with the metal at a temperature from 120°C to 260°C.

14. The silicoaluminophosphate molecular sieve of claim 13 wherein the surface is heat impregnated with the metal at a temperature from 160°C to 220°C.

15. A silicoaluminophosphate molecular sieve catalyst comprising:

a surface heat impregnated with a metal selected from the group consisting of Group IIA metals, Group IIIA metals, Group IB metals, Group IIB metals, Group IIIB metals, Group VIB metals, Group VB metals, Group VIB metals, Group VIIB metals, Group VIIIB metals, and mixtures thereof; and

a binder.

16. The silicoaluminophosphate molecular sieve catalyst of claim 15 wherein the silicoaluminophosphate molecular sieve is selected from the group consisting of SAPO-5, SAPO-8, SAPO-11, SAPO-16, SAPO-17, SAPO-18, SAPO-20, SAPO-31, SAPO-34, SAPO-35, SAPO-36, SAPO-37, SAPO-40, SAPO-41, SAPO-42, SAPO-44, SAPO-47, SAPO-56, the metal containing forms thereof, and mixtures thereof.

17. The silicoaluminophosphate molecular sieve catalyst of claim 16 wherein the silicoaluminophosphate molecular sieve is selected from the group consisting of SAPO-18, SAPO-34, SAPO-35, SAPO-44, SAPO-47, and mixtures thereof.

18. The silicoaluminophosphate molecular sieve catalyst of claim 17 wherein the silicoaluminophosphate molecular sieve is selected from the group consisting of SAPO-34A, SAPO-34B, and mixtures thereof.

19. The silicoaluminophosphate molecular sieve catalyst of claim 15 wherein the silicoaluminophosphate molecular sieve comprises 0.5 to 40 percent by weight of the metal.

20. The silicoaluminophosphate molecular sieve catalyst of claim 19 wherein the silicoaluminophosphate molecular sieve comprises 1 to 20 percent by weight of the metal.

21. The silicoaluminophosphate molecular sieve catalyst of claim 20 wherein the silicoaluminophosphate molecular sieve comprises 1 to 10 percent by weight of the metal.

22. The silicoaluminophosphate molecular sieve catalyst of claim 15 wherein the metal is selected from the group consisting of aluminum, magnesium, calcium, barium, lanthanum, titanium, chromium, iron, cobalt, nickel, copper, zinc, and mixtures thereof.

23. The silicoaluminophosphate molecular sieve catalyst of claim 22 wherein the metal is copper, zinc, or a mixture thereof.

24. The silicoaluminophosphate molecular sieve catalyst of claim 23 wherein the molecular sieve comprises the metal at 1 to 20 percent by weight based on the total weight of the molecular sieve.

25. The silicoaluminophosphate molecular sieve catalyst of claim 15 wherein the metal is a heat decomposition product of a metal acetate, metal nitrate, metal sulfate, or metal halide.

26. The silicoaluminophosphate molecular sieve catalyst of claim 15 wherein the surface is heat impregnated with the metal at a temperature from 30°C to 400°C.

27. The silicoaluminophosphate molecular sieve catalyst of claim 26 wherein the surface is heat impregnated with the metal at a temperature from 120°C to 260°C.

28. The silicoaluminophosphate molecular sieve catalyst of claim 27 wherein the surface is heat impregnated with the metal at a temperature from 160°C to 220°C.

29. The silicoaluminophosphate molecular sieve catalyst of claim 15 wherein the binder is selected from the group consisting of alumina, aluminum chlorhydrol, clay, and mixtures thereof.

30. A method of making a molecular sieve comprising:

a) mixing a metal containing solution with a silicoaluminophosphate molecular sieve, wherein the silicoaluminophosphate molecular sieve contains a template;

b) heating the mixture to a temperature between 30°C and 400°C to obtain a silicoaluminophosphate molecular sieve having a surface heat impregnated with a metal;

c) separating the heated silicoaluminophosphate molecular sieve from the heated metal containing solution; and

d) calcining the separated silicoaluminophosphate molecular sieve.

31. The method of claim 30 wherein the silicoaluminophosphate molecular sieve is selected from the group consisting of SAPO-5, SAPO-8, SAPO-11, SAPO-16, SAPO-17, SAPO-18, SAPO-20, SAPO-31, SAPO-34, SAPO-35, SAPO-36, SAPO-37, SAPO-40, SAPO-41, SAPO-42, SAPO-44, SAPO-47, SAPO-56, the metal containing forms thereof, and mixtures thereof.

32. The method catalyst of claim 31 wherein the silicoaluminophosphate molecular sieve is selected from the group consisting of SAPO-18, SAPO-34, SAPO-35, SAPO-44, SAPO-47, and mixtures thereof.

33. The method of claim 32 wherein the silicoaluminophosphate molecular sieve is selected from the group consisting of SAPO-34A, SAPO-34B, and mixtures thereof.

34. The method of claim 30 wherein the calcined silicoaluminophosphate molecular sieve comprises 0.5 to 40 percent by weight of the metal.

35. The method of claim 34 wherein the calcined silicoaluminophosphate molecular sieve comprises 1 to 20 percent by weight of the metal.

36. The method of claim 35 wherein the calcined silicoaluminophosphate molecular sieve comprises 1 to 10 percent by weight of the metal.

37. The method of claim 30 wherein the metal is selected from the group consisting of Group IIA metals, Group IIIA metals, Group IB metals, Group IIB metals, Group IIIB metals, Group VIB metals, Group VB metals, Group VIB metals, Group VIIB metals, Group VIIIB metals, and mixtures thereof.

38. The method of claim 30 wherein the metal is selected from the group consisting of aluminum, magnesium, calcium, barium, lanthanum, titanium, chromium, iron, cobalt, nickel, copper, zinc, and mixtures thereof.

39. The method of claim 38 wherein the metal is copper, zinc, or a mixture thereof.

40. The method of claim 30 wherein the metal is a heat decomposition product of a metal acetate, metal nitrate, metal sulfate, or metal halide.

41. The method of claim 30 wherein the surface is heat impregnated with the metal at a temperature from 30°C to 400°C.

42. The method of claim 41 wherein the surface is heat impregnated with the metal at a temperature from 120°C to 260°C.

43. The method of claim 42 wherein the is surface heat impregnated with the metal at a temperature from 160°C to 220°C.

44. The method of claim 30 wherein, the mixture is heated at autogeneous pressure.

45. The method of claim 30 wherein the metal containing solution has a metal concentration between 0.01 M and 1.0 M.

46. The method of claim 45 wherein the metal containing solution has a metal concentration between 0.05 M and 0.5 M.

47. The method of claim 46 wherein the metal containing solution has a metal concentration between 0.08 M and 0.3 M.

48. The method of claim 30 wherein the metal containing solution comprises metal salts selected from the group consisting of acetates, nitrates, sulfates, halides, and mixtures thereof.

49. A method of making an olefin from an oxygenate feedstock comprising:

providing a catalyst comprising a silicoaluminophosphate molecular sieve having a surface heat impregnated with a metal selected from the group consisting of Group IIA metals, Group IIIA metals, Group IB metals, Group IIB metals, Group IIIB metals, Group VIB metals, Group VB metals, Group VIB metals, Group VIIB metals, Group VIIIB metals, mixtures thereof, and a binder; and

contacting the oxygenate feedstock with the catalyst.

50. The method of claim 49 wherein the silicoaluminophosphate molecular sieve is selected from the group consisting of SAPO-18, SAPO-34, SAPO-35, SAPO-44, SAPO-47, and mixtures thereof.

51. The method of claim 49 wherein the metal is copper, zinc, or a mixture thereof.

52. The method of claim 51 wherein the silicoaluminophosphate molecular sieve comprises 1 to 20 percent by weight of the metal.

53. The method of claim 49 wherein the oxygenate feedstock comprises methanol.